

CLAIMS:

1. A function monitor capable of detecting a condition and reporting the condition over a wireless connection, the monitor comprising:

5 a detector operable to electrically respond to the condition;

a transmitter operable to be electrically coupled with the detector and indicate the detector's status by transmitting a status signal over the wireless connection; and

10 a base unit operable to power the transmitter over the wireless connection, receive the status signal from the transmitter over the wireless connection, and discern the detector's status from the status signal.

2. The monitor as set forth in claim 1, wherein the detector includes an adjustable pressure switch operable to respond when pressure 15 within a hydraulic system reaches an adjustable set-point.

3. The monitor as set forth in claim 1, wherein the base unit substantially continuously wirelessly transmits electromagnetic energy that powers the transmitter.

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4. The monitor as set forth in claim 1, wherein the transmitter transmits the status signal indicative of the detector's status using only power wirelessly received from the base unit.

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5. The machine as set forth in claim 1, wherein the detector includes a position switch operable to sense when a workpiece is properly positioned.

6. The machine as set forth in claim 1, wherein the detector includes a position switch operable to sense when a clamp is properly positioned in order to determine whether it is safe to manipulate a workpiece.

5 7. The machine as set forth in claim 1, wherein the detector includes a level switch operable to sense a fluid level in a hydraulic system in order to prevent a pump from running when insufficient fluid is available.

10 8. The machine as set forth in claim 1, wherein the detector includes a temperature switch operable to sense a temperature in a railcar and the monitor is used to monitor the temperature in order to report failure of the railcar's refrigeration unit.

15 9. The machine as set forth in claim 1, wherein the transmitter modifies the status signal in response the detector being actuated.

10. The machine as set forth in claim 1, wherein the status signal includes a serial number identifying the transmitter and information indicative of the detector's status.

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11. The machine as set forth in claim 1, wherein the transmitter only transmits the status signal in response the detector being actuated.

25 12. The machine as set forth in claim 1, wherein the status signal consists of information identifying the transmitter.

13. A machine operable to process a workpiece, the machine comprising:

5 a detector operable to electrically respond to pressure within a hydraulic system of the machine;

10 a transmitter electrically coupled with the detector, and operable to indicate the detector's status; and

15 a base unit mounted at a separation distance from the transmitter and operable to power the transmitter over a wireless connection and discern the detector's status over the wireless connection.

14. The machine as set forth in claim 13, wherein the detector includes a pressure switch operable to respond when pressure within the hydraulic system reaches a set-point.

15 15. The machine as set forth in claim 13, wherein the base unit substantially continuously wirelessly transmits electromagnetic energy to the transmitter and the electromagnetic energy powers the transmitter.

20 16. The machine as set forth in claim 13, wherein the transmitter transmits a status signal indicative of the detector's status using only power wirelessly received from the base unit.

25 17. The machine as set forth in claim 13, wherein the detector includes a position switch operable to sense when the workpiece is properly positioned.

18. The machine as set forth in claim 13, wherein the detector includes a position switch operable to sense when a clamp of the machine is properly positioned.

5 19. The machine as set forth in claim 13, wherein the detector includes a level switch operable to sense a fluid level of the hydraulic system.

20. A function monitor capable of detecting a condition and reporting the condition over a wireless connection, the monitor comprising:

5 an adjustable pressure switch operable to electrically respond when pressure within a hydraulic system reaches an adjustable set-point;

a position switch operable to sense when a workpiece is properly positioned;

a position switch operable to sense when a clamp is properly positioned;

10 a level switch operable to sense a fluid level of the hydraulic system;

a transmitter electrically coupled with the switches, and operable to transmit a status signal indicative of the switches' status over a wireless connection; and

15 a base unit mounted within eight inches of the transmitter and operable to substantially continuously transmit electromagnetic energy over the wireless connection which powers the transmitter, receive the status signal, and actuate at least one output according to the switches' status  
20 as indicated by the status signal received from the transmitter.